IN THE CLAIMS

Please amend the claims as follows:

Claims 1-7 (Canceled)

Claim 8 (Currently Amended): A tantalum carbide material obtained by placing tantalum or a tantalum alloy in a vacuum heat treatment furnace; heat-treating the tantalum or tantalum alloy under a condition where a native oxide layer of Ta_2O_5 formed on a surface of the tantalum or tantalum alloy is sublimated to remove the Ta_2O_5; heat-treating the tantalum or tantalum alloy by introducing a carbon source into the vacuum heat treatment furnace to have carbon penetrate the surface of the tantalum or tantalum alloy,

~~wherein the tantalum carbide material comprises a TaC layer formed by having the carbon penetrate the surface of the tantalum or tantalum alloy, and the TaC layer has fibrous crystals having the same growing direction comprises fibrous crystals grown in different directions~~ wherein the tantalum carbide material comprises TaC layers formed by having the carbon penetrate the surface of the tantalum or tantalum alloy; fibrous crystals within the same TaC layer has the same growing direction; and a growing direction of fibrous crystals within a TaC layer is different from a growing direction of fibrous crystals within a different TaC layer.

Claim 9 (Previously Presented): The tantalum carbide material according to claim 8, wherein

the tantalum carbide material has TaC formed by the penetration of carbon into all areas of the tantalum or tantalum alloy.

Claim 10 (Previously Presented): The tantalum carbide material according to claim 8, wherein

the tantalum carbide material is formed by the penetration of carbon into some areas of the tantalum or tantalum alloy, and the tantalum carbide material has a laminated structure where Ta_2C and TaC are laminated in this order on the surface of the tantalum or tantalum alloy.

Claim 11 (Currently Amended): A wiring of a tantalum carbide material formed by patterning tantalum or a tantalum alloy into a prescribed shape on a semiconductor substrate, heat-treating the tantalum or tantalum alloy under a condition where a native oxide layer of Ta_2O_5 formed on a surface of the patterned tantalum or patterned tantalum alloy is sublimated, removing the Ta_2O_5 from the surface of the patterned tantalum or patterned tantalum alloy, heat-treating the tantalum or tantalum alloy by introducing a carbon source, and ~~p~~ having carbon penetrate the surface of the patterned tantalum or patterned tantalum alloy,

~~wherein the tantalum carbide material comprises a TaC layer formed by having the carbon penetrate the surface of the tantalum or tantalum alloy, and the TaC layer has fibrous crystals having the same growing direction comprises fibrous crystals grown in different directions~~ wherein the tantalum carbide material comprises TaC layers formed by having the carbon penetrate the surface of the tantalum or tantalum alloy; fibrous crystals within the same TaC layer has the same growing direction; and a growing direction of fibrous crystals within a TaC layer is different from a growing direction of fibrous crystals within a different TaC layer.

Claim 12 (Previously Presented): The wiring of the tantalum carbide material according to claim 11, wherein

the wiring of the tantalum carbide material has TaC formed by the penetration of carbon into all areas of the patterned tantalum or patterned tantalum alloy.

Claim 13 (Currently Amended): An electrode of a tantalum carbide material having a prescribed shape formed by processing tantalum or a tantalum alloy into a prescribed shape, heat-treating the tantalum or tantalum alloy under a condition where a native oxide layer of Ta_2O_5 formed on the surface of the processed tantalum or processed tantalum alloy is sublimated, removing the Ta_2O_5 from the surface of the processed tantalum or processed tantalum alloy, heat-treating the tantalum or tantalum alloy by introducing a carbon source, and having carbon penetrate the surface of the tantalum or tantalum alloy,

~~wherein the tantalum carbide material comprises a TaC layer formed by having the carbon penetrate the surface of the tantalum or tantalum alloy, and the TaC layer has fibrous crystals having the same growing direction comprises fibrous crystals grown in different directions~~ wherein the tantalum carbide material comprises TaC layers formed by having the carbon penetrate the surface of the tantalum or tantalum alloy; fibrous crystals within the same TaC layer has the same growing direction; and a growing direction of fibrous crystals within a TaC layer is different from a growing direction of fibrous crystals within a different TaC layer.

Claim 14 (Previously Presented): The electrode of the tantalum carbide material according to claim 13, wherein

the electrode of the tantalum carbide has TaC formed by the penetration of carbon into all areas of the tantalum or tantalum alloy processed into a prescribed shape.

Claim 15 (Previously Presented): The electrode of the tantalum carbide material according to claim 13, wherein

the electrode of the tantalum carbide material is a filament of the tantalum carbide material or a heater of the tantalum carbide material.

Claim 16 (Previously Presented): The tantalum carbide material according to Claim 8, wherein the heat treatment for introducing the carbon source into the vacuum heat treatment furnace to form a TaC layer on the surface of the tantalum or tantalum alloy is carried out at a temperature of higher than 1860°C and less than 2300°C, and a pressure of 1 Pa or lower.

Claim 17 (Previously Presented): The tantalum carbide material according to Claim 10, where a thickness of a TaC layer is thicker than a thickness of a Ta_2C layer.

Claim 18 (Previously Presented): The tantalum carbide material according to Claim 11, wherein the heat treatment for introducing the carbon source into the vacuum heat treatment furnace to form a TaC layer on the surface of the tantalum or tantalum alloy is carried out at a temperature of higher than 1860°C and less than 2300°C, and a pressure of 1 Pa or lower.

Claim 19 (Previously Presented): The tantalum carbide material according to claim 11, wherein

the tantalum carbide material is formed by the penetration of carbon into some areas of the tantalum or tantalum alloy, and the tantalum carbide material has a laminated structure

where Ta_2C and TaC are laminated in this order on the surface of the tantalum or tantalum alloy.

Claim 20 (Previously Presented): The tantalum carbide material according to Claim 19, wherein a thickness of a TaC layer is thicker than a thickness of a Ta_2C layer.

Claim 21 (Previously Presented): The tantalum carbide material according to Claim 13, wherein the heat treatment for introducing the carbon source into the vacuum heat treatment furnace to form a TaC layer on the surface of the tantalum or tantalum alloy is carried out at a temperature of higher than 1860°C and less than 2300°C, and a pressure of 1 Pa or lower.

Claim 22 (Previously Presented): The tantalum carbide material according to claim 13, wherein

the tantalum carbide material is formed by the penetration of carbon into some areas of the tantalum or tantalum alloy, and the tantalum carbide material has a laminated structure where Ta_2C and TaC are laminated in this order on the surface of the tantalum or tantalum alloy.

Claim 23 (Previously Presented): The tantalum carbide material according to claim 22, wherein a thickness of a TaC layer is thicker than a thickness of a Ta_2C layer.